1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

241 [312] advantage of extensive fertile tracts and abundant water, it made but a poor showing in the exports it permitted, and the low standard of life it sustained. It was, and is, possible indeed to exaggerate the potentialities of 'Iraq agriculture;[1] areas cultivable by flow or lift-irrigation are not unlimited;[2] even with the best of conservation, its river-water resources can never suffice, at one time, for all or nearly all its irrigable lands; and the rains[3] upon which northern 'Iraq wholly depends are capricious and rarely sufficient. Barrage-irrigation could never be as easily achieved as in Egypt, and its cost must always place at a disadvantage, against a Canada or a Russia, countries which like central 'Iraq are dependent on it. The indigenous 'Moroccan' and the invading 'Najdi' locust were an annual menace to crops. The 'Iraqi *fallaḥ*, even when helped by a large measure of mechanization, was and is no match for the European or North American as a producer.

511 In the 'Iraq of 1900, at any rate, there were reasons enough for agricultural, and therefore universal, poverty. Conditions were tolerable in the rain-fed areas of Mosul and Shahrizur, where village organization prevailed, taxation was reasonable, the dangers of flooding unknown, land-holdings often small and personal: tolerable, too, on other lines, in the Shaṭṭ al-'Arab date-belt where security was good, society well rooted, and the growers' skill highly developed. If even in these two zones a lifetime of debt and near-starvation were the lot of most men, elsewhere, throughout lower 'Iraq, neither the social structure nor Government measures towards land settlement had produced conditions within which progress was possible. Security was habitually threatened over great areas by the aggression of neighbours or the depredations of the *badu* and their hungry camels. Even where tenure was reasonably secure, the prevalent crop-sharing system supplied but the barest living to the cultivator: the shaykhs and their agents, absentee landlords, and a blindly grasping Government combined to remove both the reward of past and the incentive for future toil. No shaykh and no landlord conceived a duty of improving productivity; wherever local agriculture called for combined and organized effort—silt-clearing, flood-bank protection, locust warfare, drainage—they provided no capital, no superior guidance, little co-ordination, no sense of social obligation. Government

511 423 [476]

[1] It may be that, even in the legendary past, agricultural prosperity was somewhat less than is vaunted: the rains were no more copious, floods as ruinous, the swamps as vast, the *badu* as rapacious; and the great canals, to judge by the lack of surviving ruined headworks, may have been, after all, only flood-channels annually silt-cleared.

[311] [2] Some 20 million acres in irrigable areas (south and central 'Iraq), 10 million of rain-lands in the north.

[3] The annual average for Mosul area is some 450 mm., and more in the hills: in central 'Iraq, 150 mm.

7: International Bank N, S-4 (1951) 1952 MH1 Iraq MH1

312 to use a quantity of water out of proportion to the amount of land
423 to be irrigated; and in times of water scarcity they must be taken into account in rationing the available supply even though an objective appraisal of relative requirements might produce quite a different distribution.

312 A larger supply of water would, of course, minimize the difficulties of distribution set forth above, but in the long run it is also vitally important that economies be effected in the amount of water used. The provision of drainage facilities and the installation of an adequate amount of regulators on canals will certainly bring about substantial economies of this character. The cultivators in Iraq, however, have for many years been accustomed to use water rather lavishly; only demonstration will convince them that they
312 can safely manage with a smaller supply. It has already been
651 pointed out that the irrigation duty is very low compared to that in many other countries. For flow-irrigated lands it is about 16,950 masharas gross (equivalent to 7,200 masharas in crops); for land irrigated by pumps from canals, 19,500; and for that irrigated by pumps from rivers, 26,200. Pump-irrigated lands have a somewhat higher duty because they are generally better drained and therefore less salted and because the cost of pumping encourages economy in the use of water. As far as the Mission is aware, the problem of
312 raising the irrigation duty has not been systematically studied. The Mission recommends strongly that fields be set aside in each irrigation system for the purpose of determining through practical experimentation over a number of years the optimum quantity of water to be supplied to each crop. Such experiments should be carried out under the joint direction of the Agriculture and Irrigation Departments.

In the future it would be desirable to associate the landholders in each irrigation area as far as possible with the operation and maintenance of the irrigation system. Irrigation should be a truly
● [476] cooperative venture. The Mission understands that councils of landowners already exist in some districts, notably along the Diyala, to assist irrigation officials in the distribution of water at times of shortage. Such councils might well be organized in all districts and with the broader function of advising on all problems of maintenance and distribution. They could sponsor the experi-

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[Marsh Arabs]

243 Bombay was. "No," he said, "here we make our bread
262 from rice flour. When the wheat crop is a failure, as in the past year, we have almost nothing else."

312 These overflow districts,* which are marshes in the spring when the rivers overflow, dry down to hard soil later in the year. To keep the water high for a few weeks longer than it would naturally remain so, temporary dams are constructed across some of the smaller streams, leaving an opening to allow boats to pass and water to run through. These dams persist in the face
[342] of a strong current in a way that is surprising. Mud, tree branches, mats, soil and the like seem to be the only building material, for there is no stone within hundreds of
[476] miles. The dams require a large amount of labor, and of course are coöperative enterprises. Possibly because of this necessity for coöperative effort, the Marsh Arab communities appear to have developed a good degree of community spirit.

361 Like their race everywhere, these Marsh Arabs do not live in isolated individual houses in the midst of their fields but collect in larger or smaller towns, some of them of considerable size. These towns are located usually in the fork of a river, or where several streams come together. In Lower Mesopotamia there are many small channels that carry water either out of the main
501 river or into it. The Marsh Arabs get about in picturesque, high-prowed, black river boats, black because they are covered with a thick coat of native bitumen which wells from the ground in one or two places in Mesopo-
[135] tamia and is an indication, so the engineers tell us, that petroleum is to be found in that country. These river boats, which are the one means of transportation, are built somewhat on the lines of a canoe and take consid-

*[along the last 100 miles of the Arab river from Gurna to the Gulf -- Analyst]